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Milillo et al.

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(54) **METHOD AND APPARATUS FOR
MANAGING A STORAGE SYSTEM USING
SNAPSHOT COPY OPERATIONS WITH
SNAP GROUPS**

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(57) **ABSTRACT**

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patent is extended or adjusted under 35
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A method and apparatus in a data processing system for
managing data access to a plurality of storage devices. The
present invention may be applied to copy operations involv-
ing virtual tracking. The plurality of storage devices is
grouped into a set of groups. Responsive to a request for a
copy operation to copy data from a first storage device to a
second storage device, a determination is then made as to
whether the first storage device and the second storage
device are in the same group within the plurality of groups.
Responsive to the first storage device and the second storage
device being in the same group, a data file pointer to the
original data is stored in a data structure for the second
storage device. Responsive to an absence of the first storage
device and the second storage device being in the same
group, occurrence of the copy operation is prevented.

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(52) U.S. Cl. **711/162; 711/111; 711/112;
711/114; 711/152; 711/161; 707/204**

(58) Field of Search **711/4, 111, 112,
711/114, 152, 161, 162, 163; 707/204**

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39 Claims, 10 Drawing Sheets

